Appln. No.: 09/890,967 Q65804

Supplemental Amendment under 37 C.F.R. § 1.111

## **AMENDMENTS TO THE CLAIMS**

This listing of claims will replace all prior versions and listings of claims in the application:

## **LISTING OF CLAIMS:**

1. (currently amended) A substituted thiourea having the general formula

$$R^{1} \parallel R^{2}$$

$$N-C-N$$

$$R^{3}$$

$$R^{4}$$

wherein  $R^1$  comprises an alkyl, alkaryl or aryl group or a substituted derivative thereof, and contains at least one fluorine atom,  $R^2$  is  $-CH_2 - CF_2 - CF_2 - CF_3$ , and each of  $R^3$  and  $R^4$  is selected from the group consisting of H, alkyl, alkaryl, aryl, substituted derivatives of H, alkyl, alkaryl or aryl, and fluorine-containing derivatives of H, alkyl, alkaryl or aryl.

2. (original): A thiourea according to Claim 1 wherein R<sup>1</sup> is

3. (canceled).

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- 4. (canceled).
- 5. (canceled).
- 6. (canceled).
- 7. (original): A thiourea according to Claim 1 wherein R<sup>3</sup> is H.
- 8. (original): A thiourea according to Claim 1 wherein R<sup>4</sup> is H.
- 9. (original): A thiourea according to Claim 2 wherein the substituted thiourea is of the formula

$$F_3C$$

$$N-C-N-CH_2-CF_2-CF_2-CF_3$$

$$F_3C$$

- 10. (canceled).
- 11. (canceled).
- 12. (canceled).
- 13. (previously presented): A method according to Claim 19 wherein the noble metal is gold, platinum, silver, palladium or rhodium.

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14. (previously presented): A method according to Claim 19 wherein the supercritical fluid is supercritical carbon dioxide.

15. (previously presented): A method according to Claim 19 wherein the treatment with substituted thiourea is performed in the presence of an oxidant.

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- 16. (original): A method according to Claim 15 wherein the oxidant comprises ferric (Fe<sup>III</sup>) ions.
- 17. (previously presented): A method according to Claim 19 wherein the treatment and extraction are carried out at room temperature and are followed by recrystallisation of the product from petroleum ether at a temperature in the range of 100°C to 120°C.
  - 18. (canceled).
- 19. (currently amended) A method for extracting a noble metal from a matrix, the method comprising the steps of treating the matrix with a substituted thiourea having the general formula

$$R^{1} \parallel R^{2}$$

$$N-C-N$$

$$R^{3}$$

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wherein R<sup>1</sup> and R<sup>2</sup> independently comprise an alkyl, alkaryl or aryl group or a substituted derivative thereof, and contain at least one fluorine atom, and each of R<sup>3</sup> and R<sup>4</sup> is selected from the group consisting of H, alkyl, alkaryl, aryl, substituted derivatives of H, alkyl, alkaryl or aryl, and fluorine-containing derivatives of H, alkyl, alkaryl or aryl, and subjecting the thus treated matrix to supercritical fluid extraction.

20. (previously presented): A substituted thiourea having the general formula

$$F_3C$$

$$\begin{array}{c} S \\ \parallel \\ N-C-N-CH_2-CF_3 \\ \downarrow \\ H \end{array}$$

$$F_3C$$

21. (currently amended) Use of a substituted thiourea in the extraction of A method of extracting gold, platinum, silver, palladium or rhodium from a matrix comprising:

treating the matrix with the a substituted thiourea, and

subjecting the thus treated matrix to supercritical fluid extraction, wherein the substituted thiourea having has the general formula

$$\begin{array}{c|c}
R^1 & S & R^2 \\
N-C-N & R^4
\end{array}$$

wherein R<sup>1</sup> and R<sup>2</sup> independently comprise an alkyl, alkaryl or aryl group or a substituted derivative thereof, and contain at least one fluorine atom, and each of R<sup>3</sup> and R<sup>4</sup> is selected from

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the group consisting of H, alkyl, alkaryl, aryl, substituted derivatives of H, alkyl, alkaryl or aryl, and fluorine-containing derivatives of H, alkyl, alkaryl or aryl.

22. (currently amended) Use of a substituted thiourea in supercritical carbon dioxide in the A method of solubilising and carrying of noble metals for deposition or impregnation thereof, comprising:

treating the matrix with a substituted thiourea, and

subjecting the treated matrix to supercritical fluid extraction, wherein the substituted thiourea having has the general formula

$$\begin{array}{c|c}
R^1 & S & R^2 \\
N-C-N & R^4
\end{array}$$

wherein R<sup>1</sup> and R<sup>2</sup> independently comprise an alkyl, alkaryl or aryl group or a substituted derivative thereof, and contain at least one fluorine atom, and each of R<sup>3</sup> and R<sup>4</sup> is selected from the group consisting of H, alkyl, alkaryl, aryl, substituted derivatives of H, alkyl, alkaryl or aryl, and fluorine-containing derivatives of H, alkyl, alkaryl or aryl.